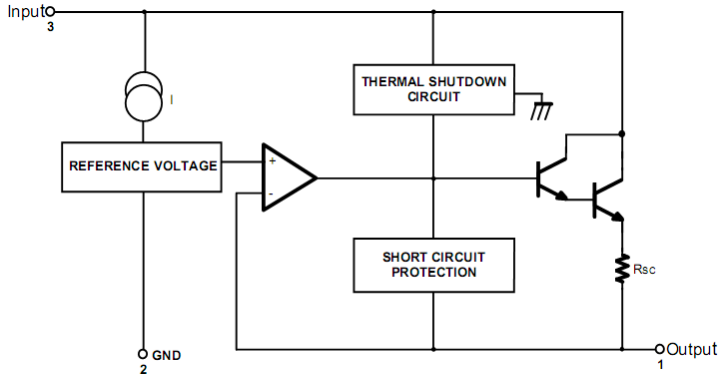
Features

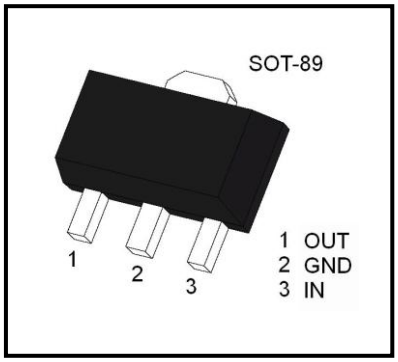
- Maximum Output Current of 100mA
- Output Voltage of 5V
- Thermal Overload Protection
- Short Circuit Current Limiting
- Output Voltage Offered in ±5% Tolerance

Description

The 78L05 of fixed voltage monolithic integrated circuit voltage regulators are suitable for application that required supply current up to100mA.

Internal Block Digram





Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage	V_{IN}	30	V
Operating Temperature Range	T_{OPR}	0 ~ + 125	℃
Storage Temperature Range	T_{STG}	-55 ~ + 150	℃

Electrical Characteristics

(V_I = 10V, I_O = 40mA, 0℃≤TJ ≤125℃, C_I = 0.33μF, C_O = 0.1μF, unless otherwise specified. (Note)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Output Voltage	V_O	Tj = 25℃	4.8	5	5.2	V
Line Regulation(Note)	ΔV_O	V_I = 7 ~ 20V , Tj = 25℃			150	mV
		V_I = 8 ~ 20V , Tj = 25℃			100	
Load Regulation(Note)	ΔV_O	I_O= 1 ~ 100mA , Tj = 25℃			60	mV
		I_O= 1 ~ 40mA , Tj = 25℃			30	
Quiescent Current	I_Q	Tj = 25℃			6	mA
Quiescent Current Change	ΔI_Q	I_O=1 ~ 40mA			0.1	mA
		I_O=40mA , V_I = 8 ~ 20V			1.5	
Output Voltage Drift	$\Delta V / \Delta T$	I_O = 5mA , T_J = 0 to +125		-0.65		mV/℃
Output Noise Voltage	V_N	$10H_Z$≤ f ≤$100KH_Z$		40		μV
Ripple Rejection	RR	f = 120Hz, V_I = 8 to 18V , = 25℃	41			dB
Dropout Voltage	V_d			1.7		V

Notes:The maximum steady state usable output current and input voltage are very dependent on the heat Sinking and/or lead lengthof the package. The data above represent pulse test conditions with junction temperature as indicated at the initiation of tests.

Figure 1 : Output Voltage vs AmbientTemperature

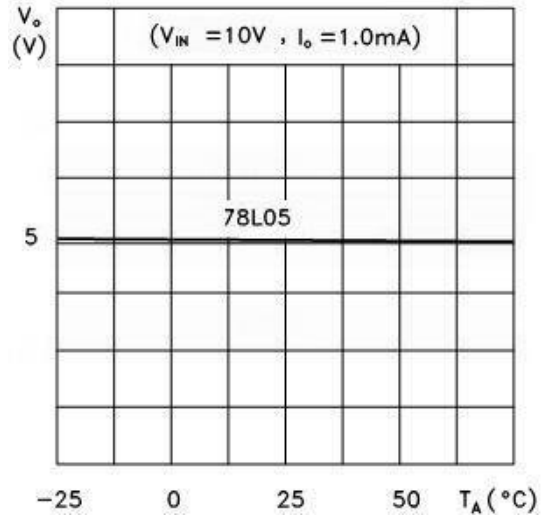


Figure 2 : Quiescent Current vs Output Current

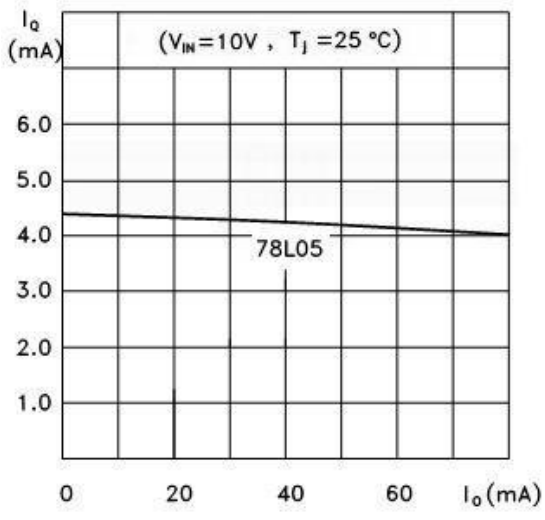


Figure 3 : Load Characteristics

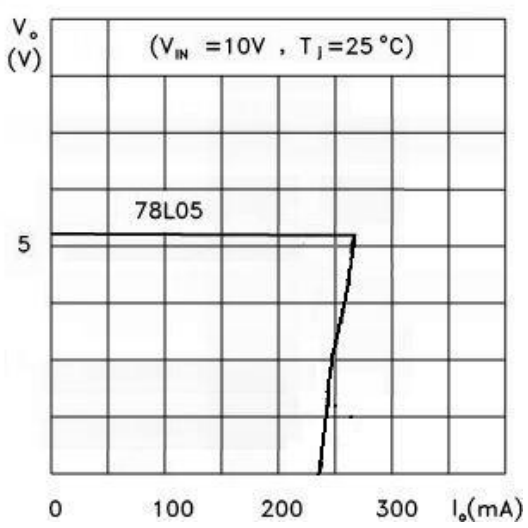


Figure 4 : Quiescent Current vs Input Voltage

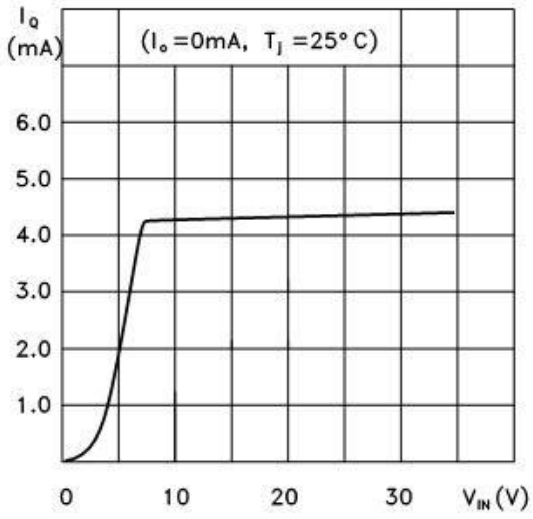


Figure5 : Thermal Shutdown

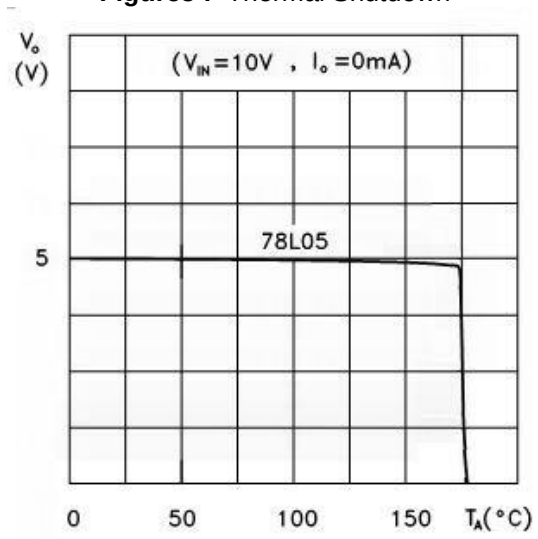


Figure 6 : Output Characteristics

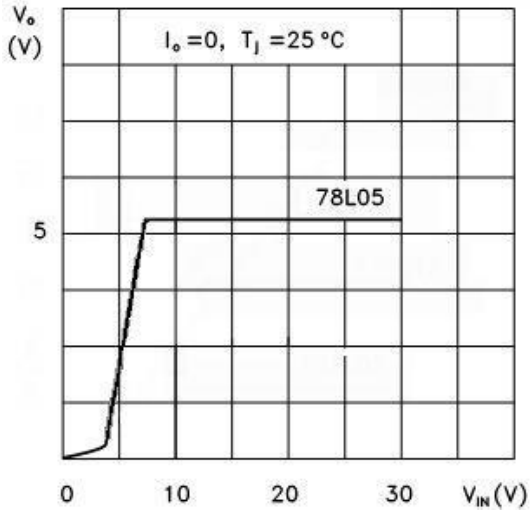


Figure 7 : Ripple Rejection

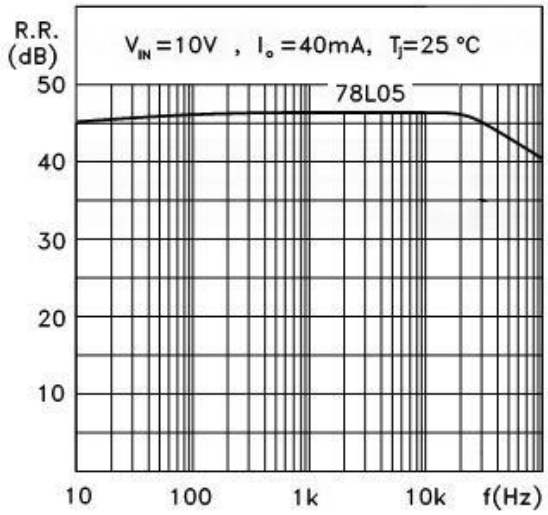


Figure 8 : Series Short Circuit Output Current

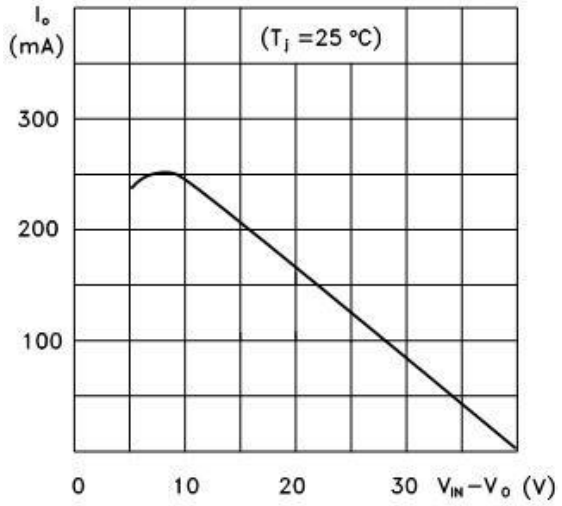


Figure 9 : Dropout Characteristics